

REMARKS

Applicants respectfully request consideration of the subject application as amended herein. This Amendment is submitted in response to an Office Action mailed on July 30, 2001. In this Amendment, claims 1, 9, 13, 19, 24 and 29 have been amended.

Rejections under 35 U.S.C. § 103

Claims 1-5, 7, 9-11 and 13-28

Claims 1-5, 7, 9-11 and 13-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takano (U.S. Patent No. 5,983,246) in view of de Souza, et al. (U.S. Patent No. 5,848,418) and Sasaki, et al. (U.S. Patent No. 5,812,995).

Takano discloses a document classifying system for classifying documents distributed and existent in a network environment. In the system of Takano, documents are classified either manually or automatically. The automatic classification is performed based on a document's bibliographic item. Specifically, in Takano, each document entering the classification system has an associated bibliographic item prepared by the service provider in advance (i.e., before, the documents are classified by the Takano system) (col. 6, lines 48-51). Takano then classifies the documents based on their bibliographic items. Each bibliographic item constitutes a "characteristic feature of the content of the document," i.e., a set of keywords and their frequency of appearance in the document (col. 8, lines 51-67). Once a document is classified (either manually or automatically), it is registered in a designated database. The registration is performed by adding the document identifier to a database classification section that stores classification categories and associated document identifiers, and by adding document information to a database document section that stores document information of classified documents. For each classified document, document information includes an identifier of the document, a bibliographic item of the document, the address where the document resides, and a method used to classify the document (i.e., manual classification or automatic classification). That is, in Takano, when a document is classified automatically, a classification category of the document is determined based on the document's bibliographic item, and once the classification of the document is completed, the document identifier is added to the resulting classification category in the

classification section of the database. In other words, Takano stores document identifiers and not the documents themselves.

The present invention as claimed, in contrast, classifies documents that may not have associated bibliographic items. The present invention as claimed in claims 1-28 analyzes the textual and graphical content of previously unclassified electronic documents and determines textual and graphical profiles of each document based on these analyses. The textual and graphical profiles of the document are then used to classify the document. Once the classification is completed, the document is stored in a directory based on the document classification and a document classification profile of the directory. That is, the document is automatically stored in a directory in which the document would most likely be stored by the user, without requiring any user interaction with the document. Takano does not teach or suggest at least the features of the presently claimed invention that involve classifying previously unclassified electronic documents and storing the classified electronic documents in a directory to resemble the user's classification approach.

De Souza discloses a system for finding objectionable material in electronic files. Contrary to the present invention as claimed in claims 1-28, the system of De Souza does not determine a textual profile and a graphical profile of the document being classified based on analysis of textual and graphical content of the document. Neither does De Souza classify the documents based on their textual and graphical profiles and store the document in the pre-existing directory structure to resemble a classification approach of the user. Thus, De Souza does not teach or suggest at least the features that are lacking in Takano.

Sasaki discloses an electronic document filing system in which documents are processed by registering, preserving, managing and retrieving the documents. As described in the Summary Section of Sasaki, the system of Sasaki provides "an electronic document filing system in which a plurality of documents are arbitrarily classified in a hierarchical structure regardless of attributes of the documents" (col. 2, lines 61-66) (emphasis added). Accordingly, because the present invention as claimed classifies the documents based on their textual and graphical profiles (i.e., documents' attributes), Sasaki lacks all the pertinent features of the presently claimed invention. In particular, Sasaki does not teach or suggest at least storing an electronic document in a directory

based on the classification of the document and a document classification profile of the directory to resemble the user's classification approach, as required by the present invention as claimed in claims 1-28. Thus, Sasaki does not teach or suggest at least the feature that is lacking in each of the above references (i.e., Takano and De Souza).

Iijima and Ho do not help Takano, De Souza and Sasaki as none of them teach or suggest at least analyzing textual and graphical content of an electronic document to determine textual and graphical profiles of the document and classifying this document based on its textual and graphical profiles and storing the document in the pre-existing directory structure to resemble a classification approach of the user. Accordingly, the above references either alone or in combination do not teach each and every element of the invention as claimed in claims 1-28. Therefore, the combination cannot render obvious Applicants' invention as claimed in claims 1-28, and Applicants respectfully request withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

Claims 29-32

Claims 29-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mahoney (U.S. Patent No. 5,889, 886) in view of Sasaki, et al., (U.S. Patent No. 5,812,995). Mahoney discloses a method and apparatus for analyzing image data. Specifically, Mahoney analyzes image data representing images containing text to partition the image into running and non-running text regions. Running text is text, which comprises the body matter of a document. Non-running text is text, which is not part of the body matter and includes tables, headings, captions, etc. Based on the analysis, the characteristics of running text regions are utilized to identify such regions and to subsequently group all non-running text regions into related groups.

Mahoney does not teach or suggest determining a directory in which the document scanned by the document scanning device should be placed, as does the presently claimed invention. The present invention as claimed in claim 29 analyzes the content of the scanned document and determines a directory in a mirror directory structure in which the document should be placed based on the analysis of the document content and a document classification profile of an existing document directory structure. The document is then automatically stored in this directory of the mirror directory

structure, thereby resembling a classification approach of the user and relieving the user of the duty to manually select a directory for the new document. Thus, Mahoney lacks at least these pertinent limitations claimed in claims 29-32 of the present invention.

Accordingly, Applicants respectfully submit that Applicants' invention as claimed in claims 29-32 is not rendered obvious by Mahoney, and respectfully request the withdrawal of the rejection under 35 U.S.C. § 103(a).

In view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Applicants respectfully request reconsideration of the application and allowance of the pending claims.

Other References Made of Record

Applicant has reviewed the other referenced cited by the Examiner and finds them no more relevant than the art relied on in rejecting the claims.


If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Marina Portnova at (408) 720-8300.

Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

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Respectfully submitted,
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VERSION OF CLAIMS WITH MARKINGS:

1 1. (Amended Three Times) A method for document classification comprising:
2 analyzing textual content and graphical content of a previously unclassified
3 electronic document to determine a textual profile and a graphical profile of the
4 electronic document;
5 generating a classification of the document based on the textual profile and the
6 graphical profile; and
7 storing the electronic document in a pre-existing directory structure based
8 on the classification of the document and a document classification profile
9 associated with the pre-existing directory structure to resemble a classification
10 approach of the user.

1 9. (Amended Three Times) A software product including a machine-readable
2 medium having stored thereon sequences of instructions, which, when executed by a
3 processor, cause the processor to:
4 analyze textual content and graphical content of a previously unclassified
5 electronic document to determine a textual profile and a graphical profile of the
6 electronic document;
7 generate a classification of the document based on the textual profile and the
8 graphical profile; and
9 store the electronic document in a pre-existing directory structure based on the
10 classification of the document and a document classification profile associated

11 with the pre-existing directory structure to resemble a classification approach of
12 the user.

1 13. (Amended Three Times) A method for document classification
2 comprising:
3 analyzing documents in a pre-existing document directory structure to determine a
4 document classification profile of the pre-existing document directory structure, the
5 document classification profile of the pre-existing document directory structure
6 indicating a classification approach of a user;
7 generating a mirror directory structure based on the pre-existing document
8 directory structure;
9 receiving a previously unclassified electronic document;
10 analyzing textual content and graphical content of the electronic document to
11 determine a textual profile and a graphical profile of the electronic document; and
12 placing the electronic document in the mirror directory structure based on the
13 document classification profile of the pre-existing document directory structure, the
14 textual profile of the document, and the graphical profile of the document to resemble the
15 classification approach of the user.

1 19. (Amended Three Times) A computer-readable medium having stored
2 thereon sequences of instructions which, when executed by a processor, cause the
3 processor to:

4 analyze a pre-existing document directory structure to determine a document
5 classification profile of the pre-existing document directory structure, the document
6 classification profile of the pre-existing document directory structure indicating a
7 classification approach of a user;
8 generate a mirror directory structure based on the pre-existing document directory
9 structure;
10 receive a previously unclassified electronic document;
11 analyze textual content and graphical content of the electronic document to
12 determine a textual profile and a graphical profile of entire electronic document; and
13 place the electronic document in the mirror directory structure based on
14 the document classification profile of the pre-existing document directory
15 structure, the textual profile of the document, and the graphical profile of the
16 document to resemble the classification approach of the user.

1 24. (Amended Three Times) An apparatus comprising:
2 means for analyzing a pre-existing document directory structure to determine
3 document classification profile of the pre-existing document directory structure, the
4 document classification profile of the pre-existing document directory structure
5 indicating a classification approach of a user;
6 means for generating a mirror directory structure based on the pre-existing
7 document directory structure;
8 means for receiving a previously unclassified electronic;

9 means for analyzing textual content and graphical content of the electronic
10 document to determine a textual profile and a graphical profile of the electronic
11 document; and
12 means for placing the electronic document in the mirror directory
13 structure based on the document classification profile of the pre-existing
14 document directory structure, the textual profile of the document, and the
15 graphical profile of the document to resemble the classification approach of the user.

1 29. (Amended Three Times) A document processing system comprising:
2 a document scanning device;
3 a document storage device coupled to the document scanning device, wherein the
4 document storage device is organized as a document directory structure having multiple
5 directories, and further wherein the document storage device has a mirror directory
6 structure having multiple directories organized based on the document directory
7 structure; and
8 a processor coupled to the document scanning device and to the document storage
9 device, wherein the processor analyzes content of a document scanned by the document
10 scanning device, determines a directory in the mirror directory structure, in which the
11 document should be placed based on the analysis of document content and a document
12 classification profile of the document directory structure, to resemble the classification
13 approach of the user, and stores the document in the directory in the mirror directory
14 structure.